ORIG1NAL ARTICLE:

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PREVALENCE OF DEPRESSION AND ASSOCIATED SOCIO DEMOGRAPHIC FACTORS IN ELDERLY RURAL POPULATION

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# ABSTRACT OBJECTIVE



To determine the prevalence of depression in elderly rural population and analyze socio demographic factors associated withdepressive symptoms.

# STUDY DESIGN

Cross sectional study

# PLACE OF STUDY

Bewal village Pakistan in October 2014.

# SUBJECTS AND METHOD

The sample population comprised of 206 elderly people (60 years and above) living in village Bewal Pakistan. Beck Depression Inventory (BDI) was used to record the presence and severity of depressive symptoms. The following socio-demographic variableswere taken on aseparate sheet.

# RESULTS

Out of 206 subjects 29.1o/o had no depressive symptoms, 27.2% had mild, 18% had moderate and 25.7% had severe depressive symptoms. With logistic regression, we found significant correlation between depressive symptoms and female gender, use of naswar and lack of social support.

# CONCLUSION:

Prevalence of depressive symptoms is very high in our study which highlights the importance of developing good mental health care facilities for elderly rural population. Special attention should be paid on females, naswar users, and people who are having inadequate socialsupport.

# KEYWORDS

Depressive symptoms, Elderly, Rural,Risk Factors.

# INTRODUCTION

Depression has been recognized as one of the major public health problem. It causes severe physical and mental dysfunction and distress and has a population prevalence of 12.?o/ofor men and 21.3%forwomen in USA.'

Advancement in medical science has increased the average age of human being. This increase in age has brought various challenges for geriatric health care professionals regarding both physical and mental health.In rural areas, often there are fewer facilities available for basic health care needs. Even rural populations of developed countries have more health related problems than urban areas and that includes bothphysical and mentalhealth.

A study in US showed association between low socio economic status and depressive symptoms is high in rural areas, given the high prevalence of both depression and poverty and emphasized the need for good mental health services in this high risk population'. Study in china verifies that prevalence of depressive symptoms is common among Chinese rural elderly population'. Another study done in US concluded that the prevalence of depression is significantly high in residents of rural areas as compared with urban areas'. A study done in rural Malaysia concluded high prevalence of depression in older rural adults'. Another study in our neighboring country India showed similar results that depression, particularly mild depression, iscommon in this rural population ofolder adults'.

Many studies have reported a correlation with psychiatric disorders and other problems such factors as smoking'·', drinking10, family structure"·", parental relationships"·", family income ",and family history of depression". Stressors are also found to be correlated with psychiatric illness. These include the military 17, family, worrying about the future**18,,**and inadequate social support,,\_,,.

Data are scarce in Pakistan regarding depression in elderly population.Thisstudy is first of its kind in this region to determine the prevalence of depressive symptoms and risk factors among elderly population of a rural area.

# METHOD

**Participants**

This cross sectional study was carried out in bewal village of Pakistan in the month of October 2014. All the people in village who were 60 years of age or greater than that and who gave written informed consent were included in the study. Non consenting people, People below 60 years of age, diagnosed cases of any psychiatric illnessor psychoactive substance use and People unable to understand or complete the BDI were excluded from the study.

**Instruments** research; due to wish of some subjects for anonymity only initials of their names were kept as record. The confounding variables were

A structured performa was use to record demographic variables; taken care of by detailed history taking about any current or previous these Variables were: age, gender, education, level of family income, psychiatric illness and any current or previous evidence of illicit tobacco smoking, chronic illnesses (DM, IHD, HTN, history of stroke), substance/drug use. Those subjects with confounding variables marital status, family size, worrying about the future and social were excluded from the study.Beck's Depression Inventory (BDI) was support status. applied. SPSS version 20 was used to analyze the data, descriptive

statistics, chi-square and Binary logistic regression was applied. For Beck Depression Inventory (BDI) was used to assess the depressive regression analysis 17 wastaken as cutoffBDI score.

symptoms among the target population. The BDHI (Beck, Steer, &

Brown, 1996) is a standardized self-report measure that consists of 21 **RESULTS**

items assessing the presence and severity of affective, cognitive,

motivational, vegetative, and psychomotor aspects of depression. Out of 206 subjects 90(43.6%) were male and 116(56.4) were male.

All 21-items are rated on a 4-point scale (0to3). 29.1% had no depressive symptoms, 27.2% had mild, 18% had moderate and 25.7% had severe depressive symptoms. As shown in

**PROCEDURE** table 1 Female gender, use of naswar, less education, low income,

inadequate social support, worry about future, marital status and The subjects were gathered in a quiet field with and were presence of chronic physical Illness were associated with depressive reassurance of confidentiality. Detailed description of the study was symptoms when chi-square was applied. Table 2 shows that only provided and they were inducted into the study after written female gender, use of naswar and inadequate social support were informed consent. Structured Performa was used to enter the socio significantly associated with the presence of depressive symptoms demographic data of the fullsample of subjects participating in the after the regression analysis.

**Table 1:**

Characteristics of the subjects and their Beck Depression Inventory scores.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Socio demographic factors**  **Total** | **NO depressive**  **symptoms**  (0-9)  **N** %  60 29.1 | | **Mild De symp**  (10- | **pressive** I **Moderate Depressive toms symptoms**  16) (17-29) | | | **Severe Depressive** I  **Symptoms** | | | **p-value** |
| (30-63)  **N** %  53 25.7 | | **x2** |
| **N**  56 | % 27.2 | **N**  37 | % 18.0 |
| Age |  |  |  |  |  |  |  |  |  |  |
| 60-75 years  **>75 years** | 40  20 | 66.7%  33.3% | 28  28 | **50%**  50% | 21  16 | 56.8%  43.2% | 23  30 | 43.4%  56.6% | 6.746 | O.Q78 |
| **Education** |  |  |  |  |  |  |  |  |  |  |
| <10  **10 or more** | 40  20 | 66.7%  33.3% | 44  12 | 78.6%  **21.4%** | 32  5 | 86.5%  13.5% | 51  2 | 96.2%  **3.8%** | 16.978 | 0.000 |
| **Gender** |  |  |  |  |  |  |  |  |  |  |
| Male  **Female** | 38  22 | 63.3%  36.7% | 27  29 | **48.2%**  51.8% | II  26 | 29.7%  70.3% | II  42 | 20.8%  79.2% | 21.724 | 0.000 |
| **Marital status** |  |  |  |  |  |  |  |  |  |  |
| **Un Married**  Married  **Widow/Widower**  **Separated** | 12  44  4  0 | 20%  733%  6.7%  **0%** | 5  46  5  0 | 8.9%  82.2%  8.9% | 4  27  6  0 | 10.8%  73.0%  16.2%  **0%** | I 40 II I | **1.9%**  75.4%  20.8%  **1.9%** | 17.591 | 0.031 |
| **Family income**  <Rs.12000  **2000 or more** | 13 | 21.7% | 16 | 28.6% | 13 | 80.5% | 34 | 64.2% | 24.603 | 0.000 |
| 47 | 78.3% | 40 | 71.4% | 24 | 14.6% | 19 | 35.8% |  |  |
| **Tobacco smoking** |  |  |  |  |  |  |  |  |  |  |
| **Smoker** | 45 | **75%** | 39 | 69.7% | 30 | 81.1% | 38 | 71.7% | 1.680 | 0.629 |
| **Non smoker** | 15 | 25% | 17 | 30.3% | 7 | 18.9% | 15 | 28.3% |  |  |
| **Naswar use** |  |  |  |  |  |  |  |  |  |  |
| **User** | 58 | 96.7% | 47 | 83.9% | 26 | 703% | 10 | 18.9% | 88.717 | 0.000 |
| **Non user** | 2 | **3.3%** | 9 | 16.1% | II | 297% | 43 | 81.1% |  |  |
| **Social support** |  |  |  |  |  |  |  |  |  |  |
| **Inadequate Adequate** | 7  53 | **11.7%**  88.3% | 19  37 | 33.9%  66.1% | 12  25 | 32.4%  67.6% | 34  19 | 100%  **0%** | 34.166 | 0.000 |
| **Worry about future** |  |  |  |  |  |  |  |  |  |  |
| Yes  No | 34  26 | 56.7%  433% | 30  26 | 53.6%  46.4% | 14  23 | 37.8%  62.2% | II  42 | 20.8%  79.2% | 18.204 | 0.000 |
| **Chronic Illness** |  |  |  |  |  |  |  |  |  |  |
| **Absent**  **Present** | 50  10 | 833%  16.7% | 36  20 | 64.3%  35.7% | 22  15 | 59.5%  40.5% | 25  28 | 47.2%  52.8% | 16.671 | 0.001 |

**Table 2**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **p** | **p-value** | **Odds ratio** | **Confidence Interval** | |
| **lower** | **upper** |
| Age  **(reference is more**  than 75 yrs) | .312 | .491 | 1.366 | .563 | 3.316 |
| **Education**  **(reference is**  **matriculate or above)** | .876 | .133 | 2.400 | .765 | 7.527 |
| **Gender**  **(reference is male)** | .984 | .027 | 2.676 | 1.121 | 6.388 |
| **Marriage Unmarried Widow/widower Separated**  **(reference is married)** | .089  .033  I9.543 | .887  .957  1.000 | 1.094  1.034  307306383.440 | .319  .311  .000 | 3.754  3.435 |
| **Family income**  **(reference is above**  12000) | .629 | .118 | 1.875 | .853 | 4.123 |
| **Smoking (reference is non smoker)** | -064 | .893 | .938 | .367 | 2.398 |
| **Naswar use (reference is non naswar user** | 2.251 | .000 | 9.494 | 3.997 | 22.550 |
| **Wony about future (reference is not** worried) | .434 | **.283** | 1.544 | .699 | 3.410 |
| **Social support (reference is adequate support)** | .930 | .024 | 2.534 | 1.131 | 5.680 |
| **Chronic Illness**  **(reference is absence**  of any Illness) | .341 | .402 | 1.406 | .634 | 3.119 |

# DISCUSSION

Most of the people showed depressive symptoms. Prevalence and severity was more than rural populations of other countries 2, 4, 6. These studies except the one done in India are from developed countries which have better health care facilities and other modalities making quality of life better as compared to our rural population whichhave very little access to even basic facilities.

Gender predisposition was very strong in our study. A very strong association between female gender and depressive symptoms was established. This is very much in accordance with the other similar studies'·'.Increased rate of depression in women may be contributed to hormonal changes particularly menopause. Additional responsibilities or dissatisfaction with their spouses may also be contributing factor".

Inadequate social support was significantly related with presence and severity of depressive symptoms as mentioned in similar studies before"·". Deteriorating health, retirement, financial problems, change in routine and life style and busy schedule of children may be the causes for increase requirement of support and care from others at old age. Lack of which may prone them towards mental health issues.

Use of naswar and itsassociation with depressive symptoms is one of very significant and interesting finding of our study. It is a tobacco based substance and its use is very common in our part of the world. As alcohol and drugs are considered a taboo in our society, Gutka and

Naswar though addictive, are accepted as part of the local culture in certain ethnicities. They are easily available and widely consumed by the locals despite research showing the serious health risksposed by them. Their association with oral pathologies is documented but not much work has been done to establish their association with mental health problems so our study provides a strong base to look into its effect in largerstudies among different sets of populations in future. Our study has few limitations as well.No subjects stationed outside of Bewal village were included in the study. Therefore, the results of present study cannot be generalized and cannot represent the true prevalence of depressive symptoms among elderly population of rural Pakistan. We used self-rating scale to detect depression so we need more attention in clinics because the BDI scores may be influenced by local factors and individual demand. We used the cross-sectional study method so the cause and effect relationships remain unclear. Therefore, we suggest further studies to look to into these associations using longitudinal epidemiological data.

# CONCLUSION

Prevalence of depressive symptoms is high in our study which highlights the importance of developing good mental health care facilitiesfor rural population and routine screening of elderly. Special attention should be paid on females, naswar users and people who are having inadequate social support.

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